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February 27, 1997

Mr. Bill Dana
Project Officer
Oregon Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, Oregon 97204

Re: McCormick & Baxter Creosoting Company, Portland Plant, Sediment Information Summary Report, Task Order No. 64-93-23; Project No. OT9000

Dear Mr. Dana:

Ecology and Environment, Inc. (E & E), under contract with the Oregon Department of Environmental Quality (DEQ), has prepared this Sediment Information Summary Report (SISR) to support the remedial design (RD) for contaminated sediments at the McCormick & Baxter Creosoting Company, Portland Plant (McCormick & Baxter) site in Portland, Oregon. This letter report has been prepared under Task Order 64-93-23. The purpose of this task order is to conduct RD and remedial action (RA) activities at the site in accordance with the remedy described in the Record of Decision (ROD) dated March 1996. The selected remedy for the contaminated sediment is capping.

ACTIVITIES PERFORMED

The objective of the activities discussed in this report is to provide preliminary data for the RD of the sediment cap. Activities performed to date include a bathymetric survey of the Willamette River near the McCormick & Baxter site, regulatory review of applicable legal regulations, research of aerial photography records, and telephone interviews of various agencies to locate existing computer modeling flow data for the Willamette River. These items are discussed in the sections below.

Bathymetric Survey

A bathymetric survey was conducted at the McCormick & Baxter site to document Willamette River bottom elevations. Measurements were taken from the centerline of the river up to the top of the bank of the site. Approximately 2,300 feet of shoreline, measured from 100 feet west of the Burlington Northern Railroad trestle to approximately 420 feet beyond the south corner of the site, was included in the survey. Survey elevations were referenced to the National Geodetic Vertical Datum and horizontal coordinates were referenced to the Oregon State Plane Coordinate System.

The bathymetric survey is presented on Figure 1 of Attachment A. Information gathered during this survey will be used to construct flow modeling data on the Willamette River and also will serve as a baseline of sediment elevations within the proposed capping area.

Regulatory Review

Location-specific applicable or relevant and appropriate requirements (ARARs) were reviewed for the remedial action design and implementation of the sediment cap in the Willamette River at the McCormick & Baxter site.

Compliance with ARARs is a threshold requirement that a remedial alternative must meet to be eligible for selection as a remedy. As the selected remedy chosen in the March 1996 ROD for addressing sediment contamination in the Willamette River at the McCormick & Baxter site, sediment capping was determined to be in compliance with the identified ARARs. Because sediment capping involves work in and affecting the Willamette River, location-specific Department of Army ARARs and more stringent Oregon ARARs, governing activities in waterways, will drive various components of the cap design/implementation. These ARARs are discussed and summarized below.

Federal Location-Specific ARARs

The Willamette River in the vicinity of the McCormick & Baxter site is both a federal "navigable water of the United States" under the Rivers and Harbors Act of 1899 (33 CFR 329) and a "water of the United States" under the Clean Water Act (33 CFR 328). As such, the sediment cap intended for the portion of the Willamette River abutting the McCormick & Baxter site is within the regulatory jurisdiction of the Department of Army, acting through the U.S. Army Corps of Engineers (COE), which regulates certain activities in and/or affecting the Willamette River under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Section 10 prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This includes construction of any structure in or over any navigable water, excavation from or deposition of material in such water, and any other work affecting the course, location, condition, or capacity of such water. Section 404 authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into waters of the United States at specified disposal sites determined in accordance with U.S. Environmental Protection Agency (EPA) guidelines published as 40 CFR 230. Section 10 and Section 404 activities related to cleanup of hazardous and toxic waste have been authorized by the COE pursuant to Nationwide Permit (NWP) number 38 (33 CFR 330, Appendix A). Nationwide authorizations are permits by rule that allow specified activities to proceed without further administrative action, provided the terms and conditions of the NWP are met. NW 38 authorizes "specific activities required to effect the containment, stabilization or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority..." The sediment cap remedy for the McCormick & Baxter site falls within this criteria.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) section 121(e) (42 USC 9621(e)) exempts on-site actions at Superfund sites from federal, state, and/or local permit requirements. Consequently, design and installation of the

sediment cap are not subject to the administrative requirements of NWP 38. These requirements mandate the prior notification of the Portland COE District Engineer so that he may determine whether the net adverse impacts of the project are more than minimal. If the impacts are determined to be more than minimal, the District Engineer can impose special conditions on the project or require processing of an individual permit for the project.

The substantive requirements of NWP 38 constitute ARARs for the sediment cap remedy for the McCormick & Baxter site. These substantive requirements are found in Section C, Nationwide Permit Conditions, of 33 CFR 330, Appendix A, and are as follows:

A. General requirements:

1. Navigation. No activity may cause more than a minimal adverse effect on navigation.

2. Proper Maintenance. Any structure or fill shall be properly maintained, including maintenance to ensure public safety.

3. Erosion and Siltation Controls. Appropriate erosion and siltation controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills must be permanently stabilized at the earliest practicable date.

4. Aquatic Life Movements. No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water.

5. Equipment. Heavy equipment working in wetlands must be placed on mats or other measures must be taken to minimize soil disturbance. (Note: No wetlands have been identified to date as part of the McCormick & Baxter site subject to remediation by silt capping.)

6. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" for possible inclusion in that system. (Note: The Willamette River in the vicinity of the McCormick & Baxter site does not meet this criteria. If it did, a plausible argument could be made that this prohibition was "administrative" in nature (i.e., it is a generalized ban on certain activities that would require an otherwise NWP activity to obtain an individual permit in order to proceed) and, therefore, the substantive standards (i.e., avoidance of direct adverse effects on scenic rivers) of the Wild and Scenic Rivers Act (16 USC 1278 et seq.) should be used to evaluate the desired activity.)

7. Water Quality Certification. No project-specific substantive requirements exist as long as the "clean-up" is authorized by Oregon DEQ and/or EPA. (This is the case for this project.)

8. Coastal Zone Management. The substantive requirement for consistency with the Oregon coastal zone management plan is not applicable to this inland site.

9. Endangered Species. No activity may jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which is likely to destroy or adversely modify the critical habitats of such species. (Note: No endangered species have been identified at the McCormick & Baxter site or as likely to be affected by activities at the site. In the future, however, this is likely to change. The National Marine Fisheries is proposing that certain coastal species, that also frequent the Willamette River, be listed as endangered species. Final listing of these species will most probably occur before final design and implementation of the sediment cap at the site. Although ARARs are legally fixed at the time of ROD execution and any future endangered species listing would not be considered to impact the sediment cap remedy, this issue may be raised by involved agencies and/or environmental groups. Also, the matter could be raised as part of any future 5-year review after initiation of the chosen remedy.)

10. Historic Properties. If any historic properties listed, or eligible for listing, in the National Register of Historic Places is affected by activities associated with the sediment capping compliance with the substantive requirements of the National Historic Preservation Act and COE substantive requirements for protection of historic properties will have to be evaluated for ARARs.

11. Minimal Project Impacts. The net individual and cumulative adverse environmental effects of the sediment capping remedy shall be minimal. Mitigation may be needed to reduce the project's adverse environmental effects to a minimal level. On-site, as well as, off-site mitigation may be considered, as appropriate. In order to be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of overall project purposes. (Note: The minimal impact standard is the substantive decision criterion contained in general condition 13 of 33 CFR 330, Appendix A, which the District Engineer would use as part of the administrative "prior notice" process discussed above.)

B. Section 404 Only Conditions: These conditions apply specifically to activities involving the discharge of dredged or fill materials.

1. Water Supply Intakes. No discharge of dredged or fill material may occur in the proximity of a public water supply intake except where the discharge is for repair of the public water supply intake structures or adjacent bank stabilization.

2. Shellfish Production. No discharge of dredged or fill material may occur in areas of concentrated shellfish production, unless the discharge is directly related to a shellfish harvesting activity otherwise authorized.

3. Suitable Material. No discharge of dredged or fill material may consist of unsuitable material (e.g., trash, debris, car bodies, etc.) and material discharged must be free from toxic pollutants in toxic amounts.

4. Mitigation. Discharges of dredged or fill material into waters of the United States must be minimized or avoided to the maximum extent practicable at the project site. (Note: Compensatory mitigation may be taken into account.)

5. Spawning Areas. Discharges in spawning areas during spawning seasons must be avoided to the maximum extent practicable.

6. Obstruction of High Flows. To the maximum extent practicable, discharges must not permanently restrict or impede the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).

7. Adverse Impacts from Impoundments. If the discharge creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized to the maximum extent practicable.

8. Waterfowl Breeding Areas. Discharges into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

9. Removal of Temporary Fill. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

The federal location-specific ARARs regarding the sediment cap were fixed as of the date of the ROD. It is noteworthy, however, that in February 1997, the COE is scheduled to publish a reauthorization of its NWPs (i.e., 33 CFR 330, Appendix A) in the Federal Register. According to Judy Linton of COE, Portland District, changes in the regional requirement for the NWP have not been established. While any changes in substantive standards would not be formally applicable to the present project, it is recommended that the reauthorization be reviewed by DEQ in order to be familiar with current COE rules and policies and to facilitate coordination with that agency on the McCormick & Baxter project.

Oregon Location-Specific ARARs

The Willamette River in the vicinity of the McCormick & Baxter site is a "water of the State" of Oregon pursuant to Oregon Administrative Rules (OAR) 141-80-105. As such, the sediment cap remedy is within the regulatory jurisdiction of the Oregon Division of State Lands (ODSL), which

implements regulations OAR 141-85-005 through 141-85-660, which govern removal of material from the beds and banks or filling of the "waters of the State." ODSL authority and jurisdiction is established by Oregon Revised Statutes (ORS) 196.800 to 196.990, 390.825, and 390.835. The ODSL regulations generally governing removal/fill activities in State waters are to be used in conjunction with the rules governing management of the Lower Willamette River (OAR 141-80-105). The portion of the Willamette River running along the McCormick & Baxter site is within the Lower Willamette River area.

State ARARs are used only when they are more stringent than federal ARARs (i.e., when no federal standards exist or the state criteria are stricter than the federal criteria). A review of the substantive standards in OAR 141-85-005 through 141-85-660 did not identify any Oregon ARARs governing the sediment cap design/implementation that are more stringent than the previously discussed federal ARARs. Consequently, there are no Oregon ARARs from these regulations that govern the sediment capping.

However, two additional regulatory sources should be reviewed for Oregon ARARs that are more stringent than the federal standards. First, a review of "General Authorizations" issued under OAR 141-85-070 should be made to determine whether a general authorization for waste site clean-ups/remedial actions exists. If so, a determination should be made whether any of the substantive conditions of that authorization are more stringent than the federal ARARs. This information was not able to be obtained from ODSL in time for inclusion in this report.

Second, a review of the regulations governing management of the Lower Willamette River (OAR 141-80-105) should be performed to determine whether any substantive standards governing an activity such as the sediment capping are more stringent than federal ARARs. These regulations were not available from ODSL for review prior to issuance of this report.

Aerial Photography

A search of the COE, Portland District, files was conducted on February 19, 1997. Ten aerial photographs were obtained of the site from the following years: 1936, 1939, 1948, 1957, 1961, 1966, 1976, 1980, 1986, 1995. These photographs are presented in Attachment B.

Aerial photography will be used as a historical reference to document site conditions. In addition, the photographs show historic Willamette River bank locations, which might provide useful information for future flow modeling.

Willamette River Flow Modeling

To identify existing flow modeling data generated for the Willamette River, the following agencies were contacted:

- Oregon Division of State Lands
- Multnomah County Planning Department

- Port of Portland
- City of Portland
- United States COE

The COE, Portland District, Flood Plain Management Services Department has a flow model of the Willamette River. This model, called the HEC-2 (Hydrologic Engineering Center) model, calculates water surface elevations at different flood levels (i.e., 10-, 50-, 500-year floods). The model is a one-dimensional flow model that calculates maximum river flow rates and velocities. The model was first used in 1976 and has been updated annually. This model does not account for tidal fluctuations.

The COE is proposing to conduct other modeling for the Willamette River. A flow model called UNET possibly could be funded prior to design of the sediment cap. This model is an unsteady flow network model and would account for tide cycles. It is unknown whether this model will be funded by the COE. The possibility also exists for a two-dimensional flow model of the Willamette River called SSM (Stream System Modeling). SSM would also include tidal fluctuations and provide more detail than HEC-2; however, it is unknown whether this model will receive funding from the COE.

The other agencies listed above do not do any computer flow modeling for the Willamette River. This is being noted so that subsequent data searches can focus on only the COE for computer modeling information. All models that are developed and maintained by the COE are available to the general public on a fee basis. The fee for acquisition of the HEC-2 model is estimated to be in the range of $100 to $500.

The activities discussed herein meet the objectives of the preliminary information search for the RD of the sediment cap for the McCormick & Baxter site.

Please call me at 206-624-9537 if you have any questions or comments.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Randy Earlywine

Attachments

cc: S. Campbell, DEQ
K. Smith, E & E
S. Fleming, E & E

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Attachment A

Bathymetric Survey

FIGURE 1

McCORMICK & BAXTER
Creosoting Company
Portland, Oregon

Willamette River
Bathymetric Survey

McCormick & Baxter Site

Willamette River

Flow

0 100 200 300 400

FEET

Legend

Contour Interval
1 Foot to 10 Feet

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Seattle, Washington

Attachment B

Aerial Photographs